DOCUMENT RESUME

ED 404 286 SO 027 578

AUTHOR Kirman, Joseph M.
TITLE Values, Technology, and Social Studies.
INSTITUTION McGill Univ., Montreal (Quebec). Faculty of Education.
REPORT NO ISSN-0024-9033
PUB DATE 92
NOTE 15p.
AVAILABLE FROM McGill Journal of Education, McGill University, 3700 McTavish Street, Montreal, Quebec H3A 1Y2, Canada.
PUB TYPE Reports - Descriptive (141) -- Journal Articles (080)
JOURNAL CIT McGill Journal of Education; v27 n1 p5-18 Win 1992

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Citizenship Education; Curriculum Development; Educational Assessment; *Educational Improvement; Educational Needs; Educational Objectives; *Educational Principles; Elementary Secondary Education; *Empathy; *Ethical Instruction; Ethics; Humanistic Education; Moral Values; Role of Education; Science and Society; Social Problems; *Social Responsibility; *Social Studies; Technological Advancement
IDENTIFIERS *Gilligan (Carol)

ABSTRACT

The concentration of power and the potential for abuse inherent in modern technology mandates the development of a personal and socially responsible ethic. The development and examination of this ethic should be reflected and integrated throughout social studies instruction. Historical examples of traditional virtues (sobriety, thrift, industry) used to facilitate or accomplish negative ends (i.e. the destruction of World War I) are offered. The development of a personal ethic that values love, kindness, and human dignity over all other values would guard against this kind of abuse. This ethic is based on concepts of caring and responsibility articulated by Milton Mayerhoff (1971), Carol Gilligan (1982), and William Leiss (1990). The essence of these views is that human beings come first and not the process, technique, or application of science and technology. In the social studies classroom this approach would not only inform the issues and content of the curriculum but also be reflected in the dignity and respect afforded the students. An elementary curriculum that would integrate this ethical instruction throughout the grades would include topics (1) Me and My Family; (2) My school and Neighborhood; 3) My Community; (4) My Province or State; (5) The Nation; and (6) Other Lands. Upper levels grades would concentrate on increasingly complex questions involving technology, history, society, and ethics. Contains 30 references. (MJP)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 404 286

Joseph M. Kirman
University of Alberta

Values, Technology, and Social Studies

Abstract

Personal values can be detrimental to others, and even more so in a technological society where technology provides power to those who control it. An ethic is proposed for the control of personal values based on the writings of Milton Mayeroff, Carol Gilligan, and William Leiss. Love, kindness, and respect for human dignity comprise this ethic for instruction in elementary and secondary social studies.

Résumé

Les valeurs personnelles peuvent être préjudiciables à autrui, d'autant plus que nous vivons dans une société technologique où la technologie confère du pouvoir à ceux qui en assurent le contrôle. Une éthique est proposée pour le contrôle des valeurs personnelles d'après les écrits de Milton Mayeroff, Carol Gilligan et William Leiss. Cette éthique qui est destinée à être enseignée dans le cadre des programmes d'études sociales au niveau du primaire et du secondaire est fondée sur l'amour, la gentillesse et le respect de la dignité humaine.

Science, technology, society

In a modern technological society the power that can be exercised by those with authority to control the technology raises profound axiological concerns for the well-being of others. There is a need for a values element to make students aware of their responsibility to others in the exercise of power.

There is no contradictory evidence for the assumption that if personal values are taught to students that these values will be applied in a socially acceptable manner. I consider this assumption unsatisfactory, for reasons

SO 027 578

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

Ann Keenan

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

BEST COPY AVAILABLE

noted below, and suggest an over-arching set of values as a yardstick for determining the impact one's actions will have on others and to provide students with a means to assess the suitability of the action of others. This yardstick consists of three values: love, kindness, and human dignity. These values can be taught to children in social studies instruction.

For purposes of this essay, values are defined as ideas and concepts of importance in people's lives (Fraenkel, 1977, p. 6) which are held in esteem. They also lead to attitudes and actions considered worthy by an individual or society. They are goals to strive for and live by and are also yardsticks to measure human behavior.

The factor of power

Humanity is at the mercy of the values of those who control science and technology. And society must note with much concern in this post-Holocaust era that the technological power of tomorrow will far exceed that which was in the hands of yesterday's Third Reich. Values-teaching takes on a new dimension with the lessons of history in mind.

For teachers the message is that some students will eventually be those people in control. Foucault notes that "individuals are the vehicles of power" (1980, p. 89-90). What are the values that people must have to make this world a better place in which to live? What values must people have to avoid harming themselves and others? These two questions make fitting objectives to prepare students for their responsibilities when they become adults. Nor are these questions merely heuristic: "science without humanistic direction is not beneficial but rather dangerous" (Runes, 1966, p. 140). In this regard, a broader view of technology, its relations to all aspects of life, and the effect of culture on technology are not only important (Casey, 1983, p. 122), but must be dealt with (Wells, 1962, pp. 365-367), since science and technology have given us new choices and provided us with the moral dilemma of dealing with them (Mesthene, 1970, p. 60; Kirman, 1983, p. 111). We must also be cognizant of Ellul's warning that technology permeates all of modern life (Ellul, 1967, p. xxvi).

The most intelligent decisions possible must be made. Ballard (1978, pp. 204-205) presents a view of technology where decisions ultimately become irrevocable with destructive outcomes, since unexpected side effects can appear in a new technology (Barrett, 1978, p. 20; Merton, 1967, p. viii). In addition to this there is also the view of science as a values system. Thus, we must also deal with the element of scientific materialism as a universal criterion for measuring thinking (Barrett, 1986, p. 57), which in itself is a reflection on secular values in our technological society.

What the scientist and technologist will or will not do as a free person depends to a large part on their values. These values are manifest in actions such as: the refusal of people to participate in war-related research and development, debates over using data from unconscionable concentration camp "experiments," and in the development of guidelines for ethical research that are now employed by many universities and funding agencies. In a humane society, science and technology are not divorced from ethics. A specific ethic for students at the elementary and secondary level that is related to science-technology-society considerations can provide a basis for discussing the power of scientists and technicians in today's world and the need for control of science and technology.

Extremes in values teaching

Two extremes in teaching values must be considered. The first is where the value is viewed merely as a slogan or catch phrase with little more to it than recognition *per se*. The other is the absolute where the value is viewed as an end in itself, devoid of context, such as the value of obedience taken to an extreme as an excuse for murder, or respect for authority taken as a rationale for not thinking for oneself.

Because of these extremes, I believe that there is an epistemology underlying values teaching that begins with consideration of the goal of a person's set of values and is followed by consideration of the individual's capacity to exercise these values. This latter element becomes important because the relation to one's self and others is defined, in part, by the person's values and the degree to which they can be exercised. Phrased as questions by a teacher these considerations would be: "What are your goals?" and "How will you accomplish your goals?"

The will to action

A person's values and capacity to exercise them are at the heart of an individual's free will. Personal decision can limit action. But human beings belong to a society, and the society can also place limits on one's freedom of action through social pressure (Fromm, 1973, p. 298). How are personal values affected by this?

I have observed over a thirty-year teaching career that personal values are usually taught as part of a child's acculturation to society as a form of socially expected indoctrination. But will personal values of many individuals always be supportive of a humane morality, that is, will the welfare of others be considered? Without guidance or social pressure students may apply personal values in a manner harmful to others.

Examine the following list of personal values: respect for authority, perseverance, cooperation, loyalty, obedience. A teacher trying to inculcate

such values in pupils would probably meet with approval by many parents and school administrators who believe these values to be important. Yet, unless the implications of such values are considered they can do as much harm as good for society. The above listed values partially exemplify Hitler's S.S. units who operated concentration camps and committed mass murder during World War II.

The fact that values are personal attributes does not mean that they will be applied in accord with humane principles. Reflecting on World War I, Bertrand Russell noted that personal virtues were directed to destructive ends and commented, ". . . **rules of conduct, whatever they may be, are not sufficient to produce good results unless the ends sought are good.** Sobriety, thrift, industry, and continence, in so far as they existed during the war, merely increased the orgy of destruction" (Russell, 1939?/1962, p. 267).

Personal values can be socially neutral, but become non-neutral in their application where others are concerned. For example, courage can be a factor in a dangerous sport such as mountain climbing, and affect no one but the climber, if he or she is climbing alone and has no family or close friends who might be concerned. But courage can also contribute to anti-social behavior such as murder or bank robbery where a person's actions affect others. Through the exercise of these values the individual becomes a vehicle for power (Foucault, 1980, p. 98).

The element of values application provides the teacher with an axiological aspect of values teaching of no small concern since it is almost analogous to teaching about the good and bad of fire. Fire can be of much help, but it can also kill or injure you and others. A warning is in order.

A yardstick for values

The pedagogical implication for a values praxis is that personal values must be taught in a manner that makes the social context explicit. This does not mean that teachers in a secular school system must teach religion or morality. Rather, students must be able to confront the social impact of their actions by examining how their decisions can affect others.

Such a confrontation requires a yardstick by which actions may be measured and which provides an ethic for action. The values clarification approach (Raths, Harmin, & Simon, 1978) attempts to get students to examine what values they hold. The seven steps associated with the values classification approach appear to me as a reflection on values, and a process for choosing and acting on values. It is value neutral (Welton & Mallan, 1988, pp. 218-219). This does not provide a yardstick or an ethic for action. Moral reasoning, associated with the late Lawrence Kohlberg (Power, Higgins, &

Kohlberg, 1989), provides an ethic based on principle as a yardstick for action. However, while an ethic based upon principle can provide the rationale for action, it is lacking when the idea of principle is elevated above the idea of humanity, as noted in a later section of this paper. An ethic of caring, however, provides the necessary safeguards for human well-being. It is critically needed in a world coming more and more under the influence of science and technology, because it emphasizes the well-being of others.

How could caring have universal validity to guide the actions of human beings? I turn to this now and call this yardstick the ethical factor.

The ethical factor

The ethical factor is based on the concepts of caring and responsibility as noted by Mayeroff (1971), Gilligan (1982), and Leiss (1990). Mayeroff believes that caring is a basic element to one's place in this world (1971, p. 2), and that caring for others involves helping them to grow (p. 6). Mayeroff goes beyond a utilitarian view of helping others and notes that, "I experience the other's development as bound up with my own sense of well-being" (p. 6). Leiss states, "Caring thus supplies what is most basic to any value system: a clear view of priorities and of individual responsibility" (1990, p. 122). He believes that caring is "concern," regarding "the intrinsic integrity of the other" (p. 120). Gilligan's view of care is even broader and relates directly to a response to the needs of others in an almost extended family-like matrix which she calls a "web of connection" (p. 62). For Gilligan, care and compassion arise from an "ethic of responsibility" (p. 165).

These views provide a foundation for an ethic of morality in today's technological society. The essence of these views is that human beings come first and not the process, technique, or application of science and technology. It is the humane response to the warning of Norbert Wiener (1954) that "[w]e have modified our environment so radically that we must now modify ourselves in order to exist in this new environment."

The ethical factor is composed of three values that take precedence over all other personal values to form an ethic of personal conduct. These values are: love, kindness, and human dignity. How are these values defined? How are they taught? Love is defined as an unselfish concern for the well-being of others. Kindness is defined as concerned helpfulness. Human dignity is defined as the esteem, nobility, and respect inherent in and due all humans.

Love, kindness, and human dignity were defined in the above manner after examining dictionary definitions and modifying the phrasing to eliminate words or nuances within definitions that either overlapped the definition

of the other two elements or broadened the definition to include aspects too intensely personal to encompass all people. The object was to retain the meaning with concise, universal applications. Granted, all three of these values can be defined and discussed with great complexity. These simplified definitions are designed for pragmatic classroom use at the elementary and secondary level.

Why were these three values selected? Certainly, the idea of human dignity, which also includes equality (Newmann, 1980, pp. 6-7), applies to the prevention of harm to others and one's self. Love and kindness provide an element of benevolence, concern, and a positive attitude to help others that is not necessarily part of respecting human dignity. One can respect another's human dignity in a grudging, sullen, or self-serving manner, e.g., where there is jealousy, anger, or personal gain. But add love, and you have a positive feeling for the welfare of others. Add kindness and you have a sensitivity to the feelings of others in need, coupled with action to provide help. Yet love and kindness without human dignity can be a paternal and benevolent dictatorial response to others. Even in the gentlest tone, to tell a mature person, "Do as you are told. I know what's best for you," is the statement of a jailer. It is an affront to human dignity.

Taken together, these three values reflect a concern for, and responsibility to others. They provide a positive response, not merely in attitude, but in service, if you will. For Gilligan, helping is the sign of a moral person, and "goodness is service" (1982, pp. 65-66). Leiss believes that caring for others provides satisfaction, as well as receiving satisfaction from being cared for by others (1990, p. 123). Leiss' latter view appears to be based on Mayeroff's belief that "[p]eople who care value caring by other people and tend to encourage and further it in others" (1971, p. 38). Mayeroff stresses the element of the other's "worth in its own right" (p. 4) and the importance of the independence of the other "with needs that are to be respected" (p. 5). With love, kindness and respect for human dignity, we have a pragmatic articulation of caring that can be taught on the elementary and secondary levels as an ethic.

It may be claimed that inculcating love, kindness, and respect for human dignity is a reasonable teaching expectation. But I do not believe that there is a deliberate attempt to teach these three values in most classrooms, or if there is, there is no focus toward an ethic of action to protect others. Perhaps it is due to a hidden curriculum in our schools that purports to elevate the sanctity of life to a major value, and is taken for granted when personal values are inculcated. It is this attitude that underlies why the ethical factor is needed, and why love, kindness, and respect for human dignity must be explicitly taught.

The question of justice

Justice may be considered as an over-arching value for the control of the power of science and technology (Grant, 1986; Jonas, 1984; Rawls, 1973). There is a gap in the literature, however, that does not take into account how to deal with the subjectivity of justice and its capacity to be used for opposite viewpoints. For example, one can argue the merits pro and con of the abortion issue using the ideal of justice for both sides.

What is considered justice in any society reflects the paradigm of the power structure. If so, then justice like God can mean different things to different people. It may therefore be argued that there is an existential element to justice.

The above comments are not intended as a Nietzschean view, rather a reflection on the changing elements of justice. Grant (1986, pp. 55, 60) also notes the harshness that can accompany particular views of justice, and the differing ideas of what is justice. Rawls (1973, p. 5) notes "... for what is just and unjust is usually in dispute ... the notions of an arbitrary distinction and of a proper balance which are included in the concept of justice, are left open for each to interpret according to the principles of justice that he accepts."

Justice alone can be harsh and even violent. You can be fair to a person with justice, but you don't have to be kind. You can give a person what he or she is entitled to, but you don't have to do it with love. And, depending upon the punishment, you can pass justice on a person without respect for his or her human dignity. But with love, kindness, and human dignity, justice has restraints. This is especially important if one reflects in the extreme on a Nietzschean paradigm of justice where "there are other human beings to whom nothing is due - other than extermination" (Grant, 1986, p. 94).

Justice is even subject to varying definitions depending upon the circumstances. Thus, there is the definition in jurisprudence of "[t]he constant and perpetual disposition to render every man his due," the commutative definition which deals with contracts that place people "on an equality," distributive justice governing rewards and punishments that "does not consider all men as equally deserving or equally blameworthy, but discriminates between them, observing a just proportion and comparison," and which is Aristotelian in origin. Justice can also be used in jurisprudence for virtue and equity (Black, 1951, pp. 1002-1003).

The factor is not a refined analog of mercy to balance justice. Mercy is grace to be exercised as an ethical duty and is a matter of conscience (Stammler, 1925, pp. 109-110). The factor is a right that is due to all. Paradoxically, it is both a limiting factor for justice and a matter of justice.

With the ethical factor as a criterion for action, any behavior that causes harm to one's self (with the exception of self-sacrifice, such as a parent saving a child) or another (with the exception of self-defense) is clearly unethical. Such a yardstick is a make-weight against outrageous demands on our students' behavior and requires them to consider the effect of their actions. It is a guide for personal values that can act as a restraint mechanism when necessary. In the words of Mayeroff, "I become my own guardian . . . and take responsibility for my life" (p. 34).

Because not harming one's self or another is an essential aspect of the ethical factor, it does not require pacifism or the elimination of competition. It does mean that survival involves physical self-defense and economic sufficiency, but that carried to an extreme, these become unreasonable, destructive, and uncaring. This happens when survival is secure, and the force exerted on its behalf is unnecessary, but continuing. Beating a subdued robber to death or driving a now noncompetitive but formerly competitive business into bankruptcy are examples of extreme behavior.

Teaching love, kindness, human dignity

Research indicates that the example of the teacher and other role models is critical (Fraenkel, 1977, pp. 136-138). Thus, treating one's pupils with love, kindness, and respect for their human dignity, and encouraging pupils to treat each other in the same ways reinforces such behavior. With young children, reinforcement can be accomplished through storytelling, role playing, simulations, games, and behavioral rewards that recognize pupil applications of these values. Show and tell and current events periods can also be employed to examine examples of love, kindness, and human dignity, as well as what happens in their absence.

How does the ethical factor apply to a social studies curriculum? Using an ever-widening curriculum as an example, the following would be such an application:

Grade 1 - Me and My Family. The children can learn that they have rights which must be respected by others, and that others cannot do certain things to them. What these certain things are would be at the discretion of the teacher and the circumstances of the community. The children can also learn that others such as friends and family have rights which they must respect. There can be discussion about what we mean by love and kindness. Children could be asked to demonstrate these values at home and in class.

Grade 2 - My School and Neighborhood. Activities can be discussed and acted on regarding how the children could be good neighbors and good citizens of their school. The ethical factor could be used as a guide for such

behavior and also behavior toward handicapped and elderly neighbors, and those in their school with physical and mental disabilities.

Grade 3 - My Community. In the examination of community facilities such as community leagues, how the role of the volunteer is an example of the ethical factor can be discussed. How local government can use the ethical factor for legislation for the welfare of the community can also be discussed.

Grade 4 - My Province or State. The history of the jurisdiction can be examined and its development criticized using the ethical factor. Not everything may be positive in such an examination. Thus, where Native people or other minorities have been poorly treated, the ethical factor can be used to encourage the children to discuss how the people in question should have been treated.

Grade 5 - The Nation. Similar to Grade 4, the history of the nation can be studied using the factor, and both positive and negative actions can be examined. The treatment of Japanese-Americans and Japanese-Canadians during World War II can be discussed and contrasted with how help was given to people elsewhere following the war.

Grade 6 - Other Lands. This also lends itself to using the ethical factor in an historical study of the other lands. Current events can be a major element for examining actions elsewhere, using the factor to decide on the ethical implications of these actions.

Older students can discuss values and examine historical periods such as World War II and the Vietnam War and the technological and scientific abuses that occurred. Ethical guidelines for scientific research, and why these guidelines were developed can also be discussed.

On the middle and upper secondary levels, teachers might consider class discussion of the application of the ethical factor to national and international concerns for developing policy on these matters. For example, the invasion of Kuwait by Iraq could have led to a discussion of whether or not the United States and others should aid Kuwait, and if so, the course of action to be taken.

With the Iraq-Kuwait situation, a grey area presents itself. While there would probably be no argument about helping a victim, the nature of the help would be subject to controversy. In this case there was a controversy about sanctions versus an attack against Iraqi forces. In both cases, the ethical factor could have been considered: the sanctions could reduce the amount of death and destruction, but a quick military strike could alleviate the terror faced by the Kuwaitis, free their country quickly, and pre-empt violations of sanctions

that could further strengthen Iraq's position. Other arguments were also used for both sides of this controversy, but in some circumstances, especially where violence is involved, the decision is not between choices that are good or bad, rather it is between bad or worse. In some cases one doesn't know which is the less harmful or better course of action. While in others, one does. The distressing decision to use atomic bombs to end World War II quickly is an example of this bad versus worse choice. Regarding the ethical factor, what matters is that only so much force and no more be used against an aggressor, and that following an end to hostilities, humanitarian aid would be given to all who need it.

There are other grey areas for which no ethical system can provide satisfactory answers. Such is the fictional scenario of a young American soldier during the Gulf War, maneuvering into position to cover his platoon with flanking fire. At a signal he must be in position to fire at a fortified position to prevent the Iraqi gunners from taking aim at his buddies, and to fire on any Iraqi soldiers leaving the strong point to engage in flanking fire or a counter attack. As he is moving forward, an Iraqi soldier pops up, his hands raised in surrender. The young American realizes that the Iraqi is aware the war is coming to a quick end and doesn't want any more of it. Yet, the American must get to his position or his buddies will be in danger. If he takes this man prisoner, what will he do with him? Will the Iraqi change his mind and attack him upon seeing the American firing on his fellow soldiers? He can't leave him behind, again, because the Iraqi might change his mind and perhaps start firing at him or his platoon. He levels his weapon at the Iraqi's chest. Wide-eyed with fear the Iraqi calls out in English, "Please, I have a wife and a child." As his finger whitens on the trigger, the American realizes that the Iraqi saw him first and could have easily killed him, and that the death of this Iraqi would make him a murderer under the Geneva Convention For The Treatment of Prisoners of War. I leave the reader to complete the scenario, but to also consider that the pragmatism of the battlefield is a harsh one when you bear the burden of the welfare of your comrades in arms.

The above scenario can be used to examine the difference between an ethic of principle, such as that used in a Kohlbergian dilemma, and an ethic of caring noted in this paper. In a Kohlbergian dilemma, the above scenario would center on whether or not the young American will save his Iraqi prisoner at the risk of harm to his buddies. With an ethic of caring, the scenario would center on how the young American can save his Iraqi prisoner without harming his buddies. It becomes a matter of how one approaches the moral problem. Perhaps the outcome might be the same with both moral approaches, but with the ethic of caring it begins with the imperative to find a solution without harm to anyone.

Even if the results of both ethical approaches are the same there would be differences regarding the effect of the action on the American soldier. If

the decision to kill the Iraqi soldier was based on the ethic of principle, then the American soldier could feel justified (an apt word to use here) for his behavior. But with the ethic of caring, killing the Iraqi would be an ethical failure done only to prevent worse from happening. In the former case the matter is one that is morally defensible, while the latter is one of apology and regret.

"So what?" asks the cynic, "In both cases the Iraqi is dead." The difference is that the ethic of caring requires consideration of ways of saving the Iraqi soldier as a right due his human dignity. The ethic of principle does not require this, only that the principle bearing upon the matter be appropriately applied.

Controlling technology

The above examples have dealt with violence. An important application of the ethical factor concerns the implications of new technologies that may have hidden potentials for negative social change or harm. There is a need to deal with these technologies with an ethic of caring in which people are paramount over principles, and where the welfare of human beings is the primary focus.

Teaching about the ethical factor is part of educating children about their responsibilities to deal with technology and control it. Agassi (1985) notes that the decision about the desirability of social implications of technology is political, and needs citizen education to deal with it (p. xiv). But children must also be intelligent and effective utilizers and controllers of science and technology with items such as the following: 1. Envisioning consequences that may not be apparent; 2. Considering alternate functions; 3. Hypothesizing social reactions; 4. Predicting value changes; 5. Examining validity of claims; 6. Exploring negative potentials; 7. Integrating ideas (Kirman, 1975, p. 1).

Ethics without the element of effective action are very weak. Since the ethical factor involves responsibility for the consequences of decision-making, students should have decision-making experience regarding the impact of science and technology on society. This can be accomplished through simulations. For example, the teacher can present several fictional heuristic scientific discoveries or technological inventions which can have an impact on society. The students are in the role of decision makers who are custodians of society's welfare and must approve or disapprove the release of these items to the public. Their discussion of the pros and cons of each item can make use of the seven items in the above list. The appropriateness of the students' decision as caring people regarding love, kindness, and human dignity could then be examined, with the students reflecting on the impact of their decision.

The class could then examine the media for any newly announced scientific or technological items. These items could be subjected to the same treatment as the above heuristic ones. If any dangers are perceived the students can act upon their findings through letters to the editor of newspapers and professional magazines, and contact the developers of the items, elected representatives, and government officials.

What is right and wrong?

In a secular context, the ethical factor provides the teacher and student with a tool to explore "rightness" and "wrongness." This can be lacking in values procedures used in social studies. For example, in using Kohlberg's theory of moral development, even if a student is reasoning as if one's action has universal application, the action can be morally repugnant.[1] Although the ethical factor can deal with questions of right and wrong, teachers should not expect either a unanimous decision or even a "right" answer (Aikenhead, 1985, p. 70). Examples of this are socio-legal disputes where reasonable people differ, such as the topics of abortion and euthanasia. Dealing with a variety of opinions is in keeping with Leiss' view of caring that involves time "to understand the situation of the other in depth and to reflect on the tensions and possibilities that characterize any situation before choosing a course of action" (p. 122), Gilligan's concept of compassion within a responsibility ethic (p. 165), and Mayeroff's concern for patience and tolerance in dealing with others and one's self (p. 13).

Evaluating others' actions

The ethical factor has a corollary of social responsibility. This corollary suggests that students evaluate the actions of others and speak up as caring individuals if ethical violations are encountered. Axiologically, this is a reasonable use of the factor for social pressure. It also fits within Gilligan's concept of a "web of connection" (p. 62). The class exercise dealing with the pros and cons of scientific and technological items in the news is an application of the corollary.

Conclusion

The need for an over-arching yardstick for values-teaching, composed of love, kindness, and human dignity in a technologically advanced society, has been proposed and its elements defined. It is based on the ideas of Milton Mayeroff, Carol Gilligan, and William Leiss. This yardstick is a pragmatic attempt to use caring to guide students away from harming one's self and others in the application of power, and provides a basis for discussion and decision making for the control of science and technology.

NOTE

1. For an example of this, see "Helga's dilemma," in Ronald E. Galbraith and Thomas M. Jones (1975), "Teaching strategies for moral dilemmas: An application of Kohlberg's theory of moral development to the social studies classroom," *Social Education 39* (Jan.) pp. 18, 20. (Strategy B). Here a girl refusing to help her Jewish friend escape from the Nazis is cited as an example of a decision based on universal ethical principles. Please see the January 1991 *Social Eduation* for my critique, "A note on Helga's dilemma: The dark side of Kohlberg," and the September, 1991 *Social Education* for reader responses in the letters section.

REFERENCES

Agassi, J. (1985). *Technology*. Boston: D. Reidel Publishing Company.

Aikenhead, G. A. (1985). *Science in social issues: Implications for teaching*. Ottawa: Science Council of Canada.

Ballard, E. G. (1978). *Man and technology: Toward the measurement of a culture*. Pittsburgh: Duquesne University Press.

Barrett, W. (1978). *The illusion of technique: A search for meaning in a technological civilization*. Garden City, New York: Anchor Press/Doubleday.

Barrett, W. (1986). *Death of the soul: From Descartes to the computer*. Garden City, NY: Anchor Press/Doubleday.

Black, H. C. (1951). *Black's law dictionary*. 4th ed. St. Paul, MN: West Publishing.

Casey, T. (1983). "Recent Continental Philosophy of Technology in North America." *Studien zum problem der technik*. Herausgegeben von Ernst Wolfgang Orth. Munchen: Verlag Karl Alber GmbH. 94-123.

Ellul, J. (1967). *The technological society*. New York: Alfred A. Knopf.

Foucault, M. (1980). *Power/knowledge: Selected interviews and other writings*. Colin Gordon, ed. Brighton, Eng.: The Harvester Press Limited.

Fraenkel, J. R. (1977). *How to teach about values: An analytic approach*. Englewood Cliffs, NJ: Prentice-Hall.

Fromm, E. (1973). *The anatomy of human destructiveness*. San Francisco: Holt Rinehart and Winston.

Gilligan, C. (1982). *In a different voice: Psychological theory and women's development*. Cambridge: Harvard University Press.

Grant, G. (1986). *Technology and justice*. Toronto: Anansi.

Jonas, H. (1984). *The imperative of responsibility*. Chicago: The University of Chicago Press.

Kirman, J. M. (1975). *Two years of horror*. (A futurology simulation.) Edmonton: Puckrins Production House.

Kirman, J. M. (1983). "Science, Technology, and the Social Studies: A Survival Problem." In J. Parson, G. Milburn, & M. Van Manen (eds.), *A Canadian social studies*. Edmonton: Faculty of Education, University of Alberta, 110-117.

Leiss, W. (1990). *Under technology's thumb*. Montreal & Kingston: McGill-Queen's University Press.

Mayeroff, M. (1971). *On caring*. New York: Harper & Row.

Merton, R. K. (1967) in forward to Ellul, J., *The technological society*. New York: Alfred A. Knopf.

Mesthene, E. G. (1970). *Technological change: Its impact on man and society*. Toronto: Mentor Book, New American Library.

Newmann, F. M. (1980). Visions of participation to guide community learning. *Curriculum Praxis Occasional Paper No. 17*. Edmonton: Department of Secondary Education, University of Alberta.

Power, F. C., Higgins, & A., Kohlberg, L. (1989). *Lawrence Kohlberg's approach to moral education*. New York: Columbia University Press.

Raths, L. E., Harmin, & M., Simon, S.B. (1978). *Values and teaching*. 2nd ed. Columbus, Ohio: Charles E. Merrill.

Rawls, J. (1973). *A theory of justice*. Cambridge, MA: The Belknap Press of Harvard University Press.

Runes, D. D. (1966). *Treasury of thought*. New York: Philosophical Library.

Russell, B. (1939/1962). "Bertrand Russell." In *I believe: The personal philosophies of twenty-three eminent men and women of our times*. London: George Allan & Unwin Ltd.

Stammler, R. (1925). *The theory of justice*. New York: The Macmillan Company.

Wiener, Norbert. (1954). *The human use of human beings: Cybernetics and society*. Garden City, NY: Doubleday Anchor Books.

Wells, H. G. (1939/1962). "H. G. Wells." in *I believe: The personal philosophies of twenty-three eminent men and women of our time*. London: George Allen & Unwin Ltd.

Welton, D. A., & Mallan, J.T. (1988). *Children and their world*. Houghton Mifflin.

Joseph M. Kirman is a professor, social studies area, in the Department of Elementary Education, University of Alberta. He is also Editor of the national education journal *Canadian Social Studies*.

Joseph M. Kirman est professeur d'études sociales au département d'instruction primaire à l'Université d'Alberta. Il est également rédacteur en chef de la revue nationale d'éducation *Canadian Social Studies*.